



A.D. 1831 N° 6135.

S P E C I F I C A T I O N

OF

JAMES PYCROFT.

—
FIRE GRATES.
—

LONDON:

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PYCROFT'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JAMES PYCROFT, of Rolleston, near Burton-on-Trent, Staffordshire, send greeting.

WHEREAS His present most Excellent Majesty King William the Fourth, by His Letters Patent under the Great Seal of Great Britain, bearing date at
5 Westminster, the Thirteenth day of July, in the second year of His reign, did, for Himself, His heirs and successors, give and grant unto me, the said James Pycroft, His especial licence, sole privilege and authority, that I, the said James Pycroft, my exors, admors, and assigns, and such others as I, the said James Pycroft, my exors, admors, or assigns, should at any time agree with,
10 and no others, from time to time and at all times during the term of years therein expressed, should and lawfully might make, use, exercise, and vend, within England, Wales, and the Town of Berwick-upon-Tweed, my Invention of "CERTAIN IMPROVEMENTS CONNECTED WITH GRATES AND OTHER FIREPLACES;" in which said Letters Patent is contained a proviso that I, the said James
15 Pycroft, shall cause a particular description of the nature of my said Invention, and in what manner the same is to be performed, to be inrolled in His said Majesty's High Court of Chancery within six calendar months next and immediately after the date of the said in part recited Letters Patent, as in and by the same, reference being thereunto had, will more fully and at large
20 appear.

NOW KNOW YE, that in compliance with the said proviso, I, the said James Pycroft, do hereby declare the nature of my Invention, and the manner in which the same is to be performed, are particularly described and ascertained in and by the Drawing hereunto annexed, and to figures and
25 letters marked thereon, that is to say:—

Pycroft's Improvements in Fire Grates.

My Invention consists in a particular arrangement and construction of grates or fireplaces, whereby much of the heat heretofore lost is made available in heating a quantity of air either from the room in which the fire is contained, or from an inlet from the outer atmosphere; and such heated air may pass into and warm the same room in which the fire is contained, or be conveyed to other rooms, as may be desired; and in order to carry my Invention into effect, I construct the sides, top, and part of the back of the grate or fireplace hollow, with proper inlets and outlets for the air to such hollow chambers. 5

DESCRIPTION OF THE DRAWING. 10

Figure 1 represents a front view of a grate or fireplace constructed according to my Invention; Figure 2, a side section thereof; and Figure 3, a section taken at the dotted line in Figure 1. In each of these Figures *a* is the fireplace for the fuel; *b, b*, are the registers or inlets for the cold air when such air is derived from the room. *c, c*, are outlets for the air when it has become heated by passing into the hollow chambers (*d, d*,) formed at the sides, back, and top of the grates or fireplaces. (*e*) is the flue, which is shewn as being of a rectangular form, but other forms may be used. This flue, it will be seen, stands back from the fire. The fire being brought as forward as possible, with a view to throwing as much heat as can be into the room, yet as such bringing forward of the fire would tend to cause the smoke to enter the room in place of going up the chimney, and in order to prevent this I use a shield or cover, which which will descend and cover the upper part of the fire, and at the same time acts as a blower to excite the fire. (*f*) is the front part of the cover, which is hinged to the upper part of the grate or stove, on the inner side of which the part (*g*) slides, so as to elongate the cover or shield when the same is drawn outwards for the purpose of covering the fire, as is shewn by the dotted lines in Figure 2. This part (*g*) has slits cut in it, and also pins or studs formed on the inner side of the part (*f*), which permits of its being drawn down, but is retained in any position by means of a screw pin on the top of the of the shield and rack affixed on the side of the part (*f*), as shewn in the Drawing. When the fire is lighted, and fresh coal put on, the cover or shield *f, g*, should be drawn down, so as to cover the upper part of the fire, and thus will the black smoke be directed up the chimney, and when the coal has burned up the cover or shield may be slided up, and be placed level with the surface of the back of the stove, and only leave a small space for the smoke to pass to the chimney; and it will be evident, that so long as a fire is in the grate or fireplace the air which is contained in the hollow chambers 15 20 25 30 35

Pycroft's Improvements in Fire Grates.

will become heated, and will pass off at the openings or outlets (*c, c,*) into the room. In case the air so heated be desired to be passed into the other rooms, then the outlets (*c, c,*) are to be closed, and openings into tubes or pipes placed for that purpose are to be opened, when the heated air will pass into any
 5 other room which is connected by pipes for that purpose; and in place of permitting the air of the room to enter into the how chambers (*d, d,*) I generally use pipes connected with the hollow chambers, and open to the outer atmosphere, in which case the openings (*b, b,*) must be opened. *h* is a damper, placed a short distance up the chimney or flue, by which the extent of
 10 draft may be regulated, or wholly shut off when required. (*i*) is a small door, through which the hot air may be conveyed into the chimney when not wanted.

Having now described the nature of my Invention, and the manner of performing the same, I would have it understood that what I claim as my
 15 Invention is the forming hollow chambers to grates or fireplaces, in the manner above described, for heating the air either of the room in which the fire is lighted, or for supplying such heated air to other rooms by means of pipes connected therewith, and to such hollow chambers, as aforesaid; also the particular construction and arrangement of the bonnet or shield with
 20 hinges.

In witness whereof, I, the said James Pycroft, have hereunto set my hand and seal, the Tenth day of January, One thousand eight hundred and thirty-two.

JAMES (L.S.) PYCROFT.

25 **AND BE IT REMEMBERED**, that on the Tenth day of January, in the year of our Lord 1832, the aforesaid James Pycroft came before our said Lord the King in His Chancery, and acknowledged the Specification aforesaid, and all and every thing therein contained and specified, in form above written. And also the Specification aforesaid was stamped
 30 according to the tenor of the Statute made for that purpose.

Inrolled the Thirteenth day of January, in the year of our Lord One thousand eight hundred and thirty-two.

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
 Printers to the Queen's most Excellent Majesty. 1857.

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FIG. 3.

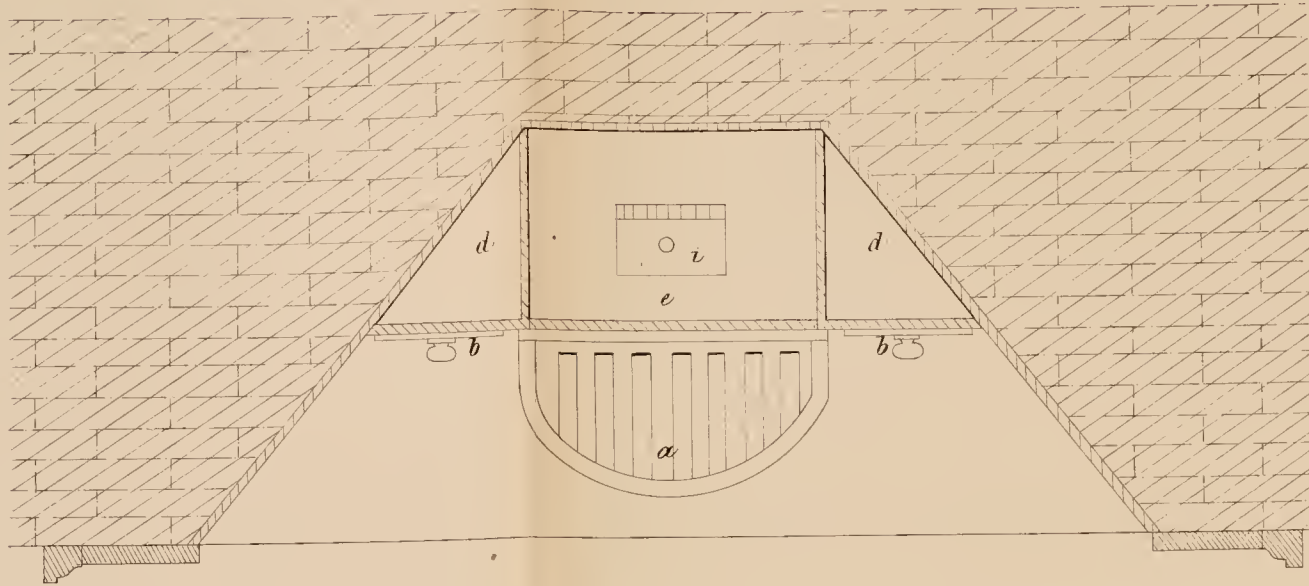


FIG. 1.

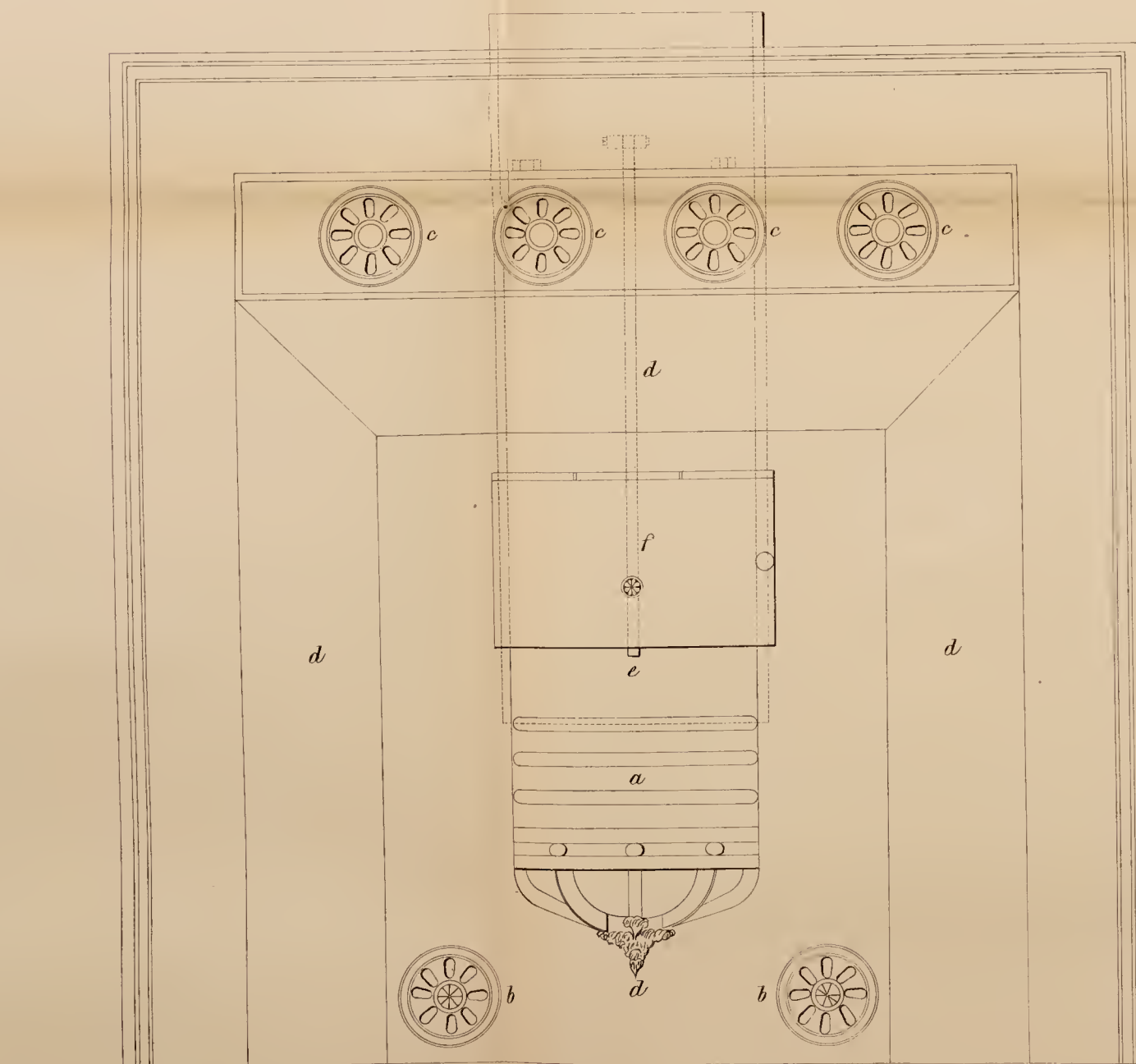
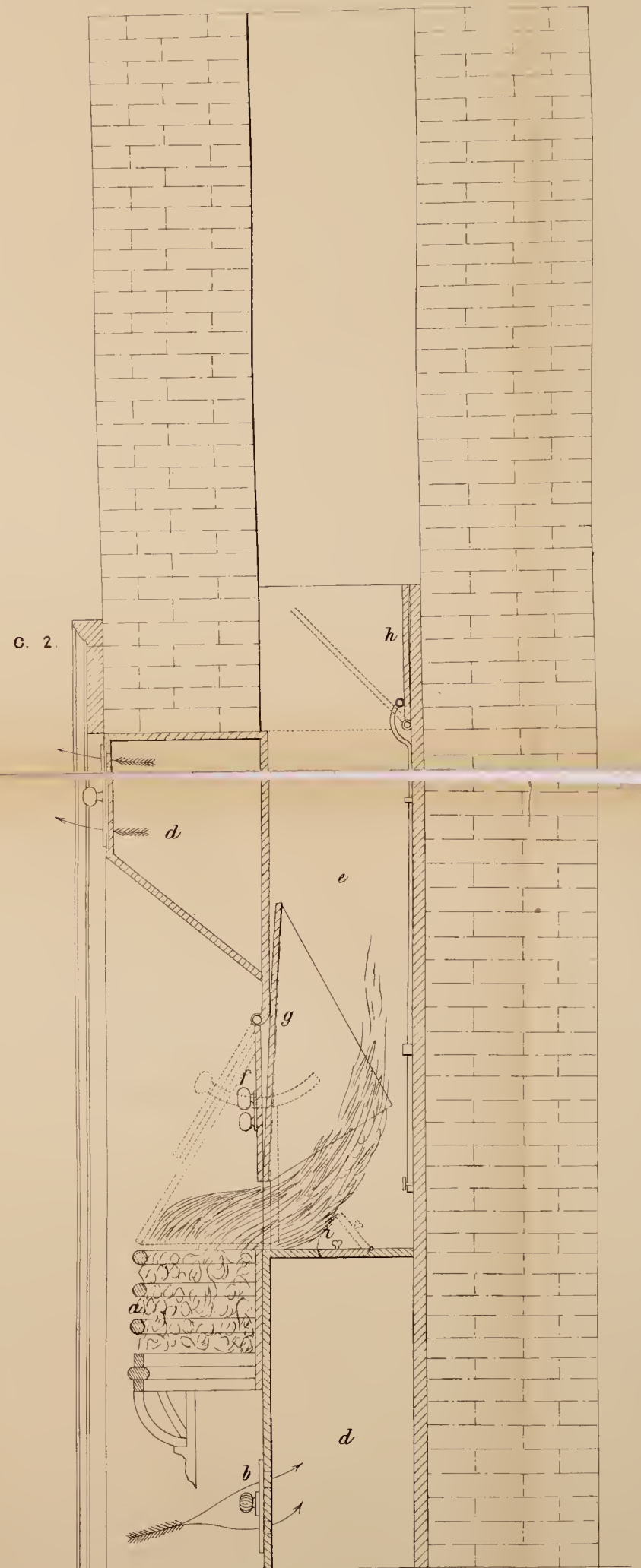


FIG. 2.



The enrolled drawing is colored.

Drawn on Stone by Malby & Sons

